being ADRB1, ADRB2, ADRB3, ADRA1A, ADRA1B, ADRA1C, ADRA1D, ADRA2A, ADRA2B, ADRA2C, SLC6A2, Norepinephrine transporter, CHRM1 (Muscarinic Ach M1) receptor, CHRM2 (Muscarinic Ach M2) receptor, CHRM3 (Muscarinic Ach M3) receptor, CHRM4 (Muscarinic Ach M4) receptor, CHRM5 (Muscarinic Ach M5) receptor, CHRNA1 (nicotinic alpha1) receptor, CHRNA2 (nicotinic alpha2) receptor, CHRNA3 (nicotinic alpha3) receptor, CHRNA4 (nicotinic alpha4) receptor, CHRNA5 (nicotinic alpha5) receptor, CHRNA7 (nicotinic alpha7) receptor, CHRNB1 (nicotinic Beta 1) receptor, CHRNB2 (nicotinic Beta 2) receptor, CHRNB3 (nicotinic Beta 3) receptor, CHRNB4 (nicotinic Beta 4) receptor, CHRNG nicotinic gamma immature muscle receptor, CHRNE nicotinic epsilon receptor, CHRND nicotinic delta receptor, tyrosine hydroxylase, dopamine transporter, dopamine receptor 1, dopamine receptor 2, dopamine receptor 3, dopamine receptor 4, dopamine receptor 5, dbh, dopamine beta hydroxylase, GABA receptor A2, GABA receptor A3, GABA receptor A4, GABA receptor A5, GABA receptor A6, GABA receptor B1, GABA receptor B2, GABA receptor B3, GABA-A receptor (gamma 1subunit), GABA-A receptor (gamma 2 subunit), GABA-A receptor (gamma 3 subunit), GABA-A receptor (delta subunit), GABA-A receptor (epsilon subunit), GABA-A receptor (pi subunit), GABA receptor theta, GABA receptor rho 1, GluR1, GlurR2, GluR3, GluR4, GluR5, GluR6, GluR7, GRIK4 (KA1), GRIK5 (KA2), NMDA receptor 1, NMDA receptor 2A, NMDA receptor 2B, NMDA receptor 2C, NMDA receptor 2D, mGluR1a, mGluR2, mGluR3, mGluR4, mGluR5, mGluR6, mGluR7, mGluR8, glut ionotropic delta, glutamate/aspartate transporter II, glutamate transporter GLT1, glutamate transporter SLC1A2, glial high affinity glutamate transporter, neuronal/epithelial high affinity glutamate transporter, glial high affinity glutamate transporter, high affinity aspartate/glutamate transporter, Glycine receptors alpha 1, Glycine receptors alpha 2, Glycine receptors alpha 3, Glycine receptors alpha 4, glycine receptor beta, histamine H1-receptor 1, Histamine H2-receptor 2, Histamine H3-receptor 3, orexin OX-A, Orexin receptor OX1R, Orexin receptor OX2R, Leptin receptor long form, melanin concentrating hormone, melanocortin 3 receptor, melanocortin 4 receptor, melanocortin 5 receptor, corticotropin releasing hormone, CRH/CRF receptor 1, CRH/CRF receptor 2, CRF binding protein, Urocortin, Pro-opiomelanocortin, cocaine and amphetamine regulated transcript, Neuropeptide Y, Neuropeptide Y1 receptor, Neuropeptide Y2 receptor, Npy4R Neuropeptide Y4 receptor, Npy5R Neuropeptide Y5 receptor, Npy6r Neuropeptide Y receptor, cholecystokinin, CCKAR cholecystokinin receptor, CCKBR cholecystokinin

receptor, agouti related peptide, Galanin, Galanin like peptide, galanin receptor1, galanin receptor2, galanin receptor3, prepro-urotensin II, Urotensin receptor, somatostatin, somatostatin receptor sst1, somatostatin receptor sst2, somatostatin receptor sst3, somatostatin receptor sst4, somatostatin receptor sst5, G protein-coupled receptor 7, opioid-somatostatin-like receptor, G protein-coupled receptor 8 opioid-somatostatin-like receptor, pre Pro Enkephalin, Pre pro Dynorphin, μ opiate receptor, kappa opiate receptor, delta opiate receptor, ORL1 opioid receptor-like receptor, Vanilloid receptor subtype 1, protein 1 VRL1, vanilloid receptor-like protein 1, vanilloid receptor-related osmotically activated channel, cannaboid receptors CB1, endothelin 1 ET-1growth hormone releasing hormone, growth hormone releasing hormone receptor, nociceptin orphanin FQ/nocistatin, neuropeptide FF precursor, G-protein coupled receptor NPGPR, gastrin releasing peptide, preprogastrin-releasing peptide, gastrin releasing peptide receptor BB2, neuromedin B, neuromedin B receptor BB1, bombesin like receptor subtype-3, uterine bombesin receptor, GCG PROglucagon, glucagon receptor, GLP1 receptor, GLP2 receptor, vasoactive intestinal peptide, secretin, pancreatic polypeptide receptor 1, pre-pro-Oxytocin, oxytocin receptor, Preprovasopressin, vasopressin receptor 1a, vasopressin receptor 1b, vasopressin receptor 2, Neurotensin tridecapeptide plus neuromedin N, Neurotensin receptor NT1, Neurotensin receptor NT2, sortilin 1 neurotensin receptor 3, Bradykinin receptor 1, Bradykinin receptor B2, gonadotrophin releasing hormone, gonadotrophin releasing hormone, gonadotrophin releasing hormone receptor, calcitonin-related polypeptide, beta, calcitonin/calcitonin-related polypeptide alpha, calcitonin receptor, neurokinin A, neurokinin B, neurokinin a (subK) receptor, tachykinin receptor NK2 (Sub P and K), tachykinin receptor NK3 (Sub P and K) neuromedin K, PACAP, atrial naturietic peptide (ANP) precursor, atrial naturietic peptide (BNP) precursor, naturietic peptide receptor 1, naturietic peptide receptor 2, naturietic peptide receptor 3, VIP receptor 1, PACAP receptor, serotonin receptor 1A, serotonin receptor 2A, serotonin receptor 3, serotonin receptor 1B, serotonin receptor 1D, serotonin receptor 1E, serotonin receptor 2B, serotonin receptor 2C, serotonin receptor 4, serotonin receptor 5A, serotonin receptor 5B, serotonin receptor 6, serotonin receptor 7, serotonin transporter, tryptophan hydroxylase, purinergic receptor P2X ligand-gated ion channel, purinergic receptor P2X ligand-gated ion channel 3, purinergic receptor P2X ligand-gated ion channel 4, purinergic receptor P2X ligand-gated ion channel 5, purinergic receptor P2X-like 1 orphan receptor, purinergic receptor P2X ligand-gated ion channel 7, purinergic receptor P2Y G-protein coupled 1, purinergic

receptor P2Y G-protein coupled 2, pyrimidinergic receptor P2Y G-protein coupled 4, pyrimidinergic receptor P2Y G-protein coupled 6, purinergic receptor P2Y G-protein coupled 11, voltage gated sodium channel type I alpha, sodium channel voltage-gated type I beta, sodium channel voltage-gated type II beta, sodium channel voltage-gated type V alpha, sodium channel voltage-gated type II alpha 1, sodium channel voltage-gated type II alpha 2, sodium channel voltage-gated type III alpha, sodium channel voltage-gated type IV alpha, sodium channel voltage-gated type VII or VI, sodium channel voltage-gated type VIII, sodium channel voltage-gated type IX alpha, sodium channel voltage-gated type X, sodium channel voltage-gated type XI alpha, sodium channel voltage-gated type XII alpha, sodium channel nonvoltage-gated 1 alpha, sodium channel voltage-gated type IV beta, sodium channel nonvoltage-gated 1 beta, sodium channel nonvoltage-gated 1 delta, sodium channel nonvoltage-gated 1 gamma, chloride channel 1 skeletal muscle, chloride channel 2, chloride channel 3, chloride channel 4, chloride channel 5, chloride channel 6, chloride channel 7, chloride intracellular channel 1, chloride intracellular channel 2, chloride intracellular channel 3, chloride intracellular channel 5, chloride channel Kb, chloride channel Ka, chloride channel, calcium activated family member 1, chloride channel calcium activated family member 2, chloride channel calcium activated family member 3, chloride channel calcium activated family member 4, potassium voltage-gated channel shaker-related subfamily member 1, potassium voltage-gated channel shaker-related subfamily member 2, potassium voltage-gated channel shaker-related subfamily member 3, potassium voltage-gated channel shaker-related subfamily member 4, potassium voltage-gated channel shaker-related subfamily member 4-like, potassium voltage-gated channel shaker-related subfamily member 5, potassium voltage-gated channel shaker-related subfamily member 6, potassium voltage-gated channel shaker-related subfamily member 7, potassium voltage-gated channel shaker-related subfamily member 10, potassium voltage-gated channel Shab-related subfamily member 1, potassium voltage-gated channel Shab-related subfamily member 2, potassium voltage-gated channel Shaw-related subfamily member 1, potassium voltage-gated channel Shaw-related subfamily member 2, potassium voltage-gated channel Shaw-related subfamily member 3, potassium voltage-gated channel Shaw-related subfamily member 4, potassium voltage-gated channel Shal-related family member 1, potassium voltage-gated channel Shal-related subfamily member 2, potassium voltage-gated channel Shal-related subfamily member 3, potassium voltage-gated channel Isk-related family member 1, potassium voltage-gated channel Isk-related family member 1-like, potassium

voltage-gated channel Isk-related family member 2, potassium voltage-gated channel Isk-related family member 3, potassium voltage-gated channel Isk-related family member 4, potassium voltage-gated channel subfamily F member 1, potassium voltage-gated channel subfamily G member 1, potassium voltage-gated channel subfamily G member 2, potassium voltage-gated channel subfamily H (eag-related) member 1, potassium voltage-gated channel subfamily H (eag-related) member 2, potassium voltage-gated channel subfamily H (eag-related) member 3, potassium voltage-gated channel subfamily H (eag-related) member 4, potassium voltage-gated channel subfamily H (eag-related) member 5, potassium inwardly-rectifying channel subfamily J member 1, potassium inwardly-rectifying channel subfamily J member 2, potassium inwardly-rectifying channel subfamily J member 3, potassium inwardly-rectifying channel subfamily J member 4, potassium inwardly-rectifying channel subfamily J member 5, potassium inwardly-rectifying channel subfamily J member 6, potassium inwardly-rectifying channel subfamily J member 8, potassium inwardly-rectifying channel subfamily J member 9, potassium inwardly-rectifying channel subfamily J member 10, potassium inwardly-rectifying channel subfamily J member 11, potassium inwardly-rectifying channel subfamily J member 12, potassium inwardly-rectifying channel subfamily J member 13, potassium inwardly-rectifying channel subfamily J member 14, potassium inwardly-rectifying channel subfamily J member 15, potassium inwardly-rectifying channel subfamily J member 1, potassium channel, subfamily K member 1, potassium channel subfamily K member 2, potassium channel subfamily K member 3, potassium inwardly-rectifying channel subfamily K member 4, potassium channel subfamily K member 5, potassium channel subfamily K member 6, potassium channel subfamily K member 7, potassium channel subfamily K member 8, potassium channel subfamily K member 9, potassium channel subfamily K member 10, potassium intermediate/small conductance calcium-activated channel subfamily N member 1, potassium intermediate/small conductance calcium-activated channel subfamily member 2, potassium intermediate/small conductance calcium-activated channel subfamily N member 4, potassium voltage-gated channel KQT-like subfamily member 1, potassium voltage-gated channel KQT-like subfamily member 2, potassium voltage-gated channel KQT-like subfamily member 3, potassium voltage-gated channel KQT-like subfamily member 4, potassium voltage-gated channel KQT-like subfamily member 5, potassium voltage-gated channel delayed-rectifier, subfamily S member 1, potassium voltage-gated channel, delayed-rectifier, subfamily S member 2,

potassium voltage-gated channel delayed-rectifier subfamily S member 3, potassium voltage-gated channel shaker-related subfamily beta member 1, potassium voltage-gated channel shaker-related subfamily beta member 2, potassium voltage-gated channel shaker-related subfamily beta member 3, potassium inwardly-rectifying channel subfamily J inhibitor 1, potassium large conductance calcium-activated channel subfamily M alpha member 1, potassium large conductance calcium-activated channel subfamily M alpha member 3, potassium large conductance calcium-activated channel subfamily M beta member 1, potassium large conductance calcium-activated channel subfamily M beta member 2, potassium large conductance calcium-activated channel subfamily M beta member 3-like, potassium large conductance calcium-activated channel, potassium large conductance calcium-activated channel sub M beta 4, hyperpolarization activated cyclic nucleotide-gated potassium channel 1, calcium channel voltage-dependent L type alpha 1S subunit, calcium channel voltage-dependent L type alpha 1C subunit, calcium channel voltage-dependent L type alpha 1D subunit, calcium channel voltage-dependent L type alpha 1F subunit, type calcium channel voltage-dependent P/Q type alpha 1A subunit, calcium channel voltage-dependent N type alpha 1B subunit, calcium channel voltage-dependent alpha 1E subunit, calcium channel voltage-dependent alpha 1G subunit, calcium channel, voltage-dependent alpha 1H subunit, calcium channel voltage-dependent alpha 1I subunit, NES (nestin), scip, sonic hedgehog, Smoothened Shh receptor, Patched Shh binding protein, calbindin d28 K, calretinin, parvalbumin, Trk B, GFR alpha 1, GFRalpha 2, GFRalpha 3, Neurotrophin receptor, Neurotrophin receptor, or Neurotrophic factor receptor.

134 (amended). A transgenic animal comprising two or more transgenes, each said transgene comprising (a) first sequences coding for a selectable or detectable marker protein; and (b) regulatory sequences of a characterizing gene corresponding to an endogenous gene or ortholog of an endogenous gene operably linked to said first sequences such that said first sequences are expressed in said transgenic animal with an expression pattern that is substantially the same as the expression pattern of said endogenous gene in a non-transgenic animal or anatomical region thereof, wherein the characterizing gene is different for each said transgenes, and wherein each said transgene is present in the genome at a site other than where the endogenous gene is located.

146 (amended). A collection of pure populations of cells isolated from the transgenic animals of the collection of lines of transgenic animals of claim 1 or 28, wherein said cells express said detectable or selectable marker and each of said pure populations is isolated from a transgenic animal having a different characterizing gene.

153. A method of screening a candidate molecule for an effect on one or more cell types, said method comprising

(a) administering said candidate molecule to a transgenic animal from each line of transgenic animals of the collection of transgenic animals of claim 1;

(b) isolating a pure population of cells from each of said transgenic animals that express said first sequences from the cells that do not express said first sequences; and

(c) detecting a change in said pure populations of cells from said transgenic animals administered said candidate molecule in comparison to corresponding pure populations of cells from transgenic animals from said lines of transgenic animals not administered said candidate molecule.

REMARKS

The specification has been amended to correct inadvertent typographical errors. Specifically, at page 20, the spelling of "endogenous" has been corrected. At page 58, the abbreviation of "Curr. Opin. Neurobiol." has been corrected. At page 59, the spelling of "transgenes" and of "gene" have been corrected. At page 62, the spellings of "inactivated" and of "chemiluminescent" have been corrected. At page 67, the spelling of "specificity" has been corrected. At page 75, the parenthetical word "(source)" has been deleted. At page 76, a space has been inserted after the comma between the two words "cell, nuclear". At page 80, the spellings of "female" and of "http:" have been corrected. At page 81, the spelling of "heterozygous" has been corrected. At page 86, the spelling of "entirety" has been corrected. At page 88, the word "cells" has been deleted and the subject of the sentence, the word "mRNA", has been inserted. Also at page 88, the spelling of "pharmacologically" has been corrected. At page 89, the spelling of "principal" has been corrected. At page 91, a space has been inserted after the comma between the two words word "example, a." At page 98, the spelling of "fingerprinting" has been corrected. At page 101, a duplication of the word "with" has been deleted. At page 106, the spelling of